BASIS FOR THE AMENDMENTS

Independent Claims 1, 10, 20 and 29 have been amended to include the respective limitations of Claims 3 and 4, 13 and 14, 22 and 23, and 31 and 32. The independent claims have also been amended to require an intermediate layer comprising titanium oxide disposed between the photosensitive layer and the electroconductive substrate. Support for this limitation is found, for example, at page 31, lines 13-23. See also the examples beginning at page 36 of the specification.

Claims 3, 4, 13, 14, 22, 23, 31, and 32 have been cancelled accordingly.

New Claims 38-45 have been added, and these are drawn to narrower and more preferred embodiments of the invention. These claims find support in the specification as originally filed. See, e.g., the asymmetric bisazo pigments at page 43 (formula (VII)) and page 46 (formula (VIII)).

No new matter is believed to be added by entry of the amendments. Upon entry of the amendments, Claims 1, 5-7, 10, 11, 15-17, 20, 24-26, 29, 33-35 and 38-45 will be active and in condition for allowance. Entry and favorable consideration are kindly requested.

REMARKS

Applicants thank Examiner Dote for the courteous and helpful discussion held with Applicants' U.S. representative on March 26, 2003. Applicants also thank the Examiner for entering Applicants' submission filed on July 8, 2002, and for accepting and recording the terminal disclaimer over Suzuki '483.

The rejections over JP '711 and JP '250 set out in Official Action paragraphs 6-11 are obviated by amendment. The broad claims have been limited to the asymmetric bisazo pigments of Claims 4, 14, 23 and 32, respectively, which claims were not rejected over the

combination of JP '711 and JP '250 or their further combination with Kanoto, Kakuta, DERWENT Abstract '039, and Byrne. As recognized by the Office, neither JP '711 nor JP '250 disclose or suggest the asymmetric bisazo pigment now required by the claims, and this deficiency is not cured by the addition of the secondary references. Applicants kindly request that these grounds of rejection be withdrawn.

Applicants submit that the discussion at paragraph 12 of the Official Action is now moot in view of the present amendments.

The rejections based on the combination of JP '998 and JP '250, and further combined with Kanoto, Kakuta, DERWENT Abstract '039 set out in Official Action paragraphs 13-16 are traversed in-part and are obviated in-part by amendment. The claims are now limited to a particular subgenus of asymmetric bisazo pigments. The claims are also limited by an intermediate layer comprising titanium oxide. Neither of these limitations are taught anywhere in JP '250.

The JP '998 reference is deficient because it does not teach the particular sulfur-containing antioxidant required by the claims. The JP '998 reference does disclose however that it is possible to have an interlayer between the conductive base material and the photosensitive layer, and this interlayer may include titanium oxide. See, e.g., paragraph [0030] in JP '998. JP '998 also discloses asymmetric bisazo pigments (compounds (I) - 24 and (I) - 29) and τ-type non-metal phthalocyanine compounds at paragraph [0035] for example. Thus, as was advanced by the Office during the interview, JP '998 is the closest prior art, but it nevertheless lacks any teaching of the claimed sulfur-containing antioxidant. As discussed below, however, Applicants have provided a comparison using the JP '998 photoconductors.

Applicants kindly point out the comparison in the present specification using the photoconductors of JP '998 Examples 1 and 2. The comparison between ***Invention Examples 5-8 and 13-16*** and ***Comparative Examples 5-8 and 13-16*** at Table 16 on pages 46 and 47 of the specification is particularly relevant. A copy of Table 16 is attached in the Appendix herewith for the Examiner's convenience.

In the Appendix Table, each of Invention Examples 5-8 and Comparative Examples 5-8 use the same photoconductor disclosed in JP '998 Example 1 (JP '998 compound (I) - 24, which is formula (VII) in the present application). Similarly, each of Invention Examples 13-16 and Comparative Examples 13-16 use the same photoconductor disclosed in JP '998 Example 2 (JP '998 compound (I) - 29, which is formula (VIII) in the present application).

Applicants kindly point out that neither JP '998 Examples 1 or 2 use *any* antioxidant, and both appear to use a τ-type non-metal phthalocyanine. The JP '998 examples also appear to include an interlayer using "alcoholic fusibility polyamide". JP '998 paragraph [0035].

Thus, the evidence of record provides comparisons using the JP '998 photoconductors, which compositions are closer than the closest prior art. Invention Examples 5-8 and 13-16 are *directly* comparable to Comparative Examples 5 and 13, which are closer to the present invention than JP '998. Moreover, Comparative Examples 5 and 13 do not have any antioxidant, and are thus similar to the JP '998 examples. As seen in the attached Table, Invention Examples 5-8 and 13-16 have much better charge stability even after exposure to light, they repeatedly produce good images without background fouling and black spots. In contrast, Comparative Examples 5 and 13 have poor charge stability, they exhibit black spots and background fouling. This is clear evidence of the unobviousness of the present invention, and Applicants kindly request that the rejection based on JP '998 combined with JP '250 be withdrawn.

The double-patenting rejections over the combination of copending Application '808 and JP '250 and further combined with Kanoto, Kakuta and DERWENT Abstract '039 set out in paragraphs 17-20 of the Official Action have been obviated by amendment. The independent claims have been amended to include the limitation that the phthalocyanine pigment and the asymmetric bisazo pigment are present in the photosensitive layer in a ratio of 1:5 to 5:1 by weight (Claims 3, 13, 22 and 31), which is nowhere found in the references. Applicants note that none of Claims 3, 13, 22, and 31 were rejected for double-patenting. Applicants kindly request that the double-patenting rejections be withdrawn as unsustainable.

For all the reasons given above, the claim amendments, and the ample evidence of record in this application, the art rejections are unsustainable and should be withdrawn.

Applicants kindly request the Office to consider the Lists of Related Cases filed December 31, 2002, and April 24, 2003.

This application is now believed to be in immediate condition for allowance, and the Examiner is kindly requested to pass this case to issue.

Respectfully submitted,

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APPENDIX

Table 16

	ΔVD (V)	Black spots	Undesired images
Example 5	50	Not observed	None
Example 6	50	Not observed	None
Example 7	20	Not observed	None
Example 8	20	Not observed	None
Example 9	55	Not observed	None
Example 10	60	Not observed	None
Example 11	20	Not observed	None
Example 12	25	Not observed	None
Example 13	50	Not observed	None
Example 14	50	Not observed	None
Example 15	20	Not observed	None
Example 16	20	Not observed	None

	⊿VD (V)	Black spots	Undesired images
Comparative Example 5	100	Black spots were observed from 38,000th image	Background fouling
Comparative Example 6	90	Black spots were observed from 40,000th image	None
Comparative Example 7	95	Black spots were observed from 39,000th image	None
Comparative Example 8	100	Black spots were observed from 37,000th image	None
Comparative Example 9	105	Black spots were observed from 35,000th image	Background fouling
Comparative Example 10	95	Black spots were observed from 39,000th image	None
Comparative Example 11	95	Black spots were observed from 38,000th image	None
Comparative Example 12	100	Black spots were observed from 36,000th image	None
Comparative Example 13	105	Black spots were observed from 38,000th image	Background fouling
Comparative Example 14	95	Black spots were observed from 40,000th image	None
Comparative Example 15	95	Black spots were observed from 40,000th image	None
Comparative Example 16	105	Black spots were observed from 38,000th image	None

Attached #24

DOCKET NO.: 197484US

SERIAL NO.: 09/679,480

MARKED-UP COPY OF

AMENDMENT AND REQUEST FOR RECONSIDERATION

IN THE CLAIMS

Please cancel Claims 3, 4, 13, 14, 22, 23, 31 and 32.

Please amend the claims to read as follows:

--1. (Twice Amended) An electrophotographic photoreceptor, comprising:

an electroconductive substrate,

on the electroconductive substrate, an intermediate layer comprising titanium oxide, and

a photosensitive layer on the [electroconductive substrate] intermediate layer,

wherein the photosensitive layer comprises:

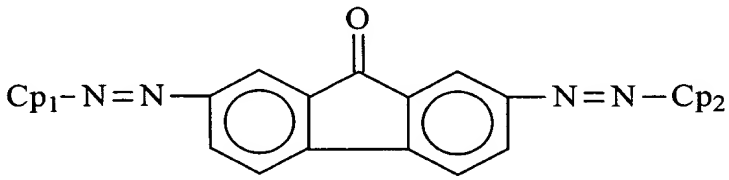
a charge generation layer, and

a charge transport layer,

wherein the charge generation layer comprises, as charge generation materials which have spectral sensitivity in differing wavelength regions, at least one phthalocyanine pigment and at least one asymmetric bisazo pigment having the following formula (II): [(I):

$$Cp_1\text{-}N{=}N\text{-}A\text{-}N{=}N\text{-}Cp_2 \qquad (I)$$

wherein A represents a divalent group having a carbon atom which connects the nitrogen atoms of the adjacent azo groups; and Cp_1 and Cp_2 each, independently, represent a residual group of a coupler, wherein Cp_1 is different from Cp_2;]



(II)

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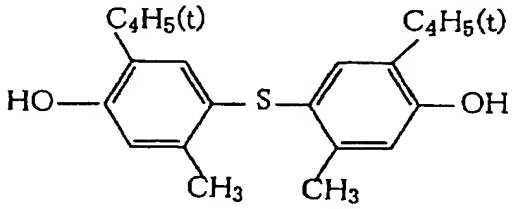
wherein Cp_1 and Cp_2 each, independently, represent a residual group of a coupler, wherein Cp_1 is different from Cp_2;

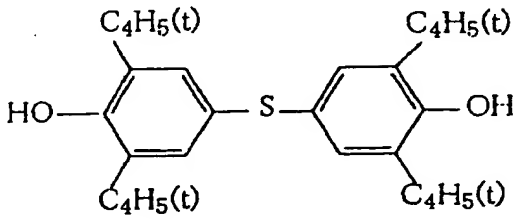
wherein the phthalocyanine pigment and the asymmetric bisazo pigment are present in the photosensitive layer in a ratio of 1:5 to 5:1 by weight;

and wherein the charge transport layer comprises an organic sulfur-containing compound selected from the group consisting of compounds having the following formulas III, S-1, S-2 and S-3:

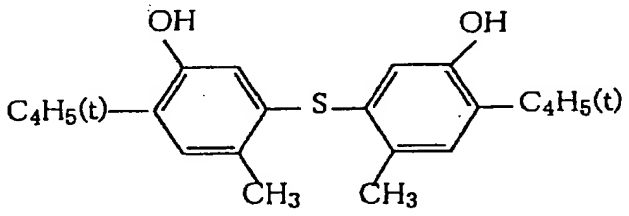
$$S\text{-}(CH_2CH_2COOC_nH_{2n+1})_2 \qquad \text{(III)}$$



(S-1)



(S-2)



(S-3)

wherein n is an integer of from 8 to 25.

10. (Twice Amended) An electrophotographic image forming apparatus comprising:

an electrophotographic photoreceptor;

a charging device which charges the photoreceptor;

a light irradiation device which irradiates the charged photoreceptor to form an electrostatic latent image on the photoreceptor;

a developing device which reversely develops the electrostatic latent image with a developer including a toner, to form a toner image on the photoreceptor;

an image transfer device which transfers the toner image to a receiving material; and

a cleaning device which cleans the photoreceptor,

wherein the electrophotographic photoreceptor comprises:

an electroconductive substrate,

on the electroconductive substrate, an intermediate layer comprising titanium oxide,

and

a photosensitive layer on the [electroconductive substrate] intermediate layer, and wherein the photosensitive layer comprises:

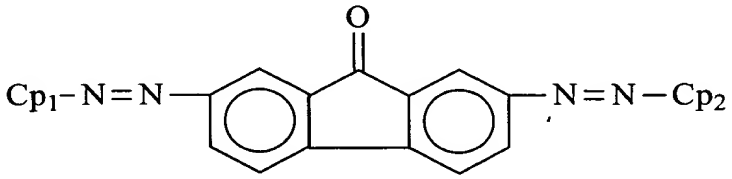
a charge generation layer, and

a charge transport layer,

wherein the charge generation layer comprises, as charge generation materials which have spectral sensitivity in differing wavelength regions, at least one phthalocyanine pigment and at least one asymmetric bisazo pigment having the following formula (II): [(I):

$$Cp_1\text{-}N{=}N\text{-}A\text{-}N{=}N\text{-}Cp_2 \qquad (I)$$

wherein A represents a divalent group having a carbon atom which connects the nitrogen atoms of the adjacent azo groups; and Cp_1 and Cp_2 each, independently, represent a residual group of a coupler, wherein Cp_1 is different from Cp_2;]



(II)

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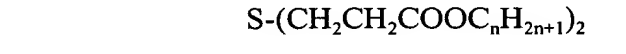
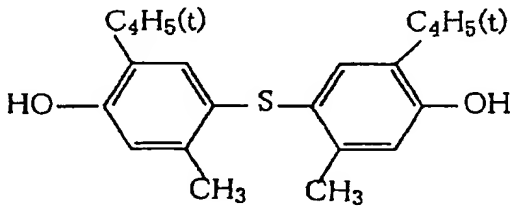
wherein Cp_1 and Cp_2 each, independently, represent a residual group of a coupler, wherein Cp_1 is different from Cp_2;

wherein the phthalocyanine pigment and the asymmetric bisazo pigment are present in the photosensitive layer in a ratio of 1:5 to 5:1 by weight;

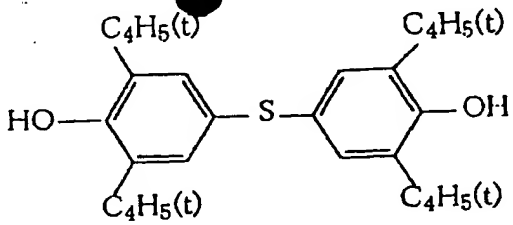
and wherein the charge transport layer comprises an organic sulfur-containing compound selected from the group consisting of compounds having the following formulas III, S-1, S-2 and S-3:



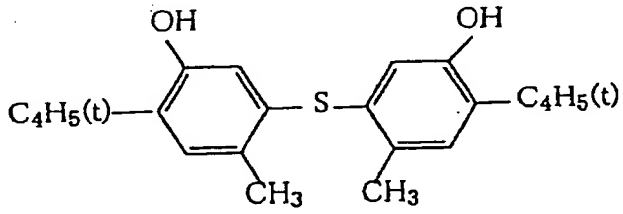
(III)



(S-1)



(S-2)



(S-3)

wherein n is an integer of from 8 to 25.

20. (Twice Amended) An electrophotographic process cartridge comprising:

a photoreceptor: and

at least one device selected from the group[s] consisting of:

a charging device which charges the photoreceptor;

a light irradiation device which irradiates the charged photoreceptor to form an electrostatic latent image on the photoreceptor;

a developing device which reversely develops the electrostatic latent image with a developer including a toner to form a toner image on the photoreceptor;

an image transfer device which transfers the toner image to a receiving material; and

a cleaning device which cleans the photoreceptor,

wherein the photoreceptor comprises:

an electroconductive substrate,

on the electroconductive substrate, an intermediate layer comprising titanium oxide, and

a photosensitive layer on the [electroconductive substrate] intermediate layer,

and wherein the photosensitive layer comprises:

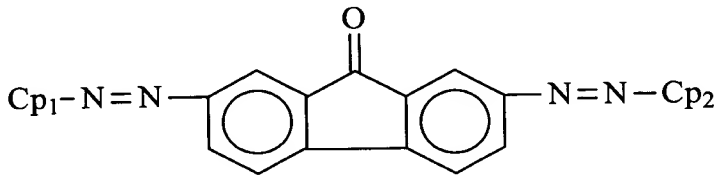
a charge generation layer, and

a charge transport layer,

wherein the charge generation layer comprises, as charge generation materials which have spectral sensitivity in differing wavelength regions, at least one phthalocyanine pigment and at least one asymmetric bisazo pigment having the following formula (II): [(I):

$$Cp_1\text{-}N{=}N\text{-}A\text{-}N{=}N\text{-}Cp_2 \qquad (I)$$

wherein A represents a divalent group having a carbon atom which connects the nitrogen atoms of the adjacent azo groups; and Cp_1 and Cp_2 each, independently, represent a residual group of a coupler, wherein Cp_1 is different from Cp_2;]



(II)

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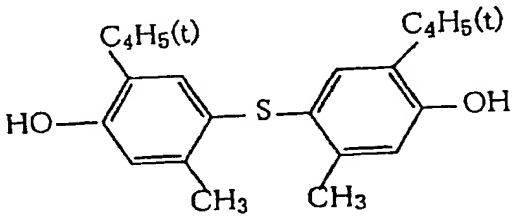
wherein Cp_1 and Cp_2 each, independently, represent a residual group of a coupler, wherein Cp_1 is different from Cp_2;

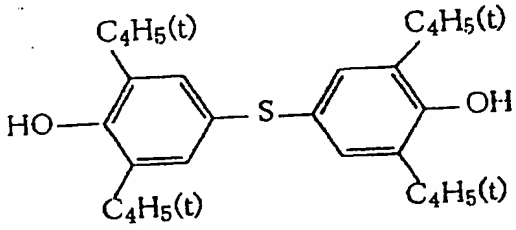
wherein the phthalocyanine pigment and the asymmetric bisazo pigment are present in the photosensitive layer in a ratio of 1:5 to 5:1 by weight;

and wherein the charge transport layer comprises an organic sulfur-containing compound selected from the group consisting of compounds having the following formulas III, S-1, S-2 and S-3:

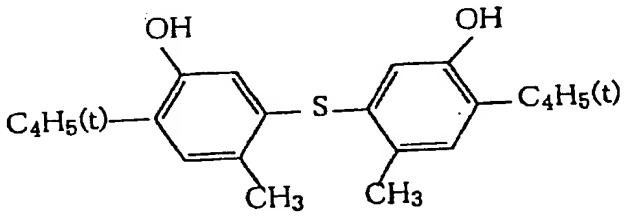
$$S\text{-}(CH_2CH_2COOC_nH_{2n+1})_2 \qquad (III)$$



(S-1)



(S-2)



(S-3)

wherein n is an integer of from 8 to 25.

29. (Twice Amended) An electrophotographic image forming method comprising the steps of:

providing an electrophotographic photoreceptor;

charging the electrophotographic photoreceptor;

irradiating the electrophotographic photoreceptor with light to form an electrostatic latent image on the electrophotographic photoreceptor;

reversely developing the electrostatic latent image with a developer including a toner to form a toner image on the electrophotographic photoreceptor;

transferring the toner image to a receiving material; and

cleaning the electrophotographic photoreceptor,

wherein the electrophotographic photoreceptor comprises:

an electroconductive substrate,

on the electroconductive substrate, an intermediate layer comprising titanium oxide, and

a photosensitive layer on the [electroconductive substrate] intermediate layer, and wherein the photosensitive layer comprises:

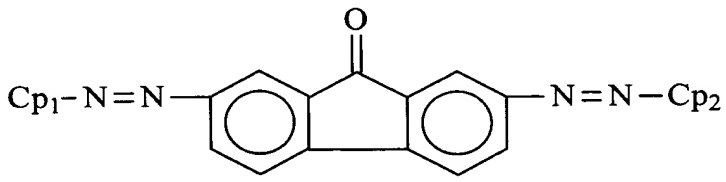
a charge generation layer, and

a charge transport layer,

wherein the charge generation layer comprises, as charge generation materials which have spectral sensitivity in differing wavelength regions, at least one phthalocyanine pigment and at least one asymmetric bisazo pigment having the following formula (II): [(I):

$$Cp_1\text{-}N{=}N\text{-}A\text{-}N{=}N\text{-}Cp_2 \qquad (I)$$

wherein A represents a divalent group having a carbon atom which connects the nitrogen atoms of the adjacent azo groups; and Cp_1 and Cp_2 each, independently, represent a residual group of a coupler, wherein Cp_1 is different from Cp_2;]



(II)

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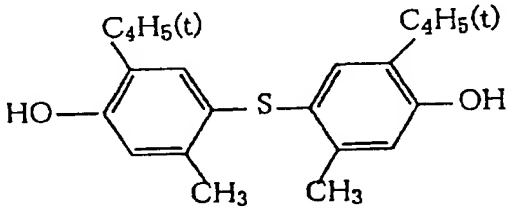
wherein Cp_1 and Cp_2 each, independently, represent a residual group of a coupler, wherein Cp_1 is different from Cp_2;

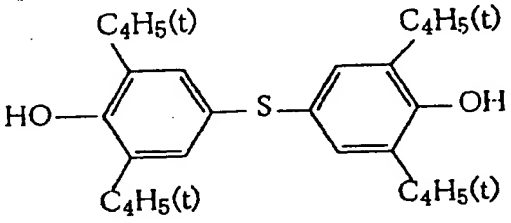
wherein the phthalocyanine pigment and the asymmetric bisazo pigment are present in the photosensitive layer in a ratio of 1:5 to 5:1 by weight;

and wherein the charge transport layer comprises an organic sulfur-containing compound selected from the group consisting of compounds having the following formulas III, S-1, S-2 and S-3:

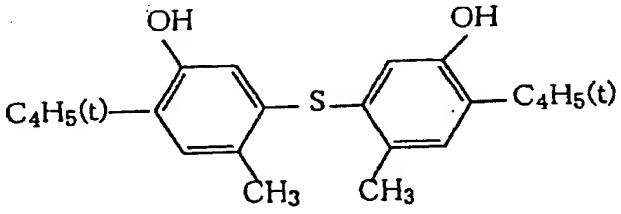
$$S\text{-}(CH_2CH_2COOC_nH_{2n+1})_2 \qquad \text{(III)}$$



(S-1)



(S-2)



(S-3)

wherein n is an integer of from 8 to 25.

Claims 38-45 are new.--